

Application No. 10/625,310
Amendment Dated November 15, 2004
Reply to Office Action of August 16, 2004

REMARKS

The Office Action mailed August 16, 2004, has been carefully considered by Applicant. Reconsideration is respectfully requested in view of the foregoing amendments and the remarks that follow.

Claim 1 is amended.

Claim 2 remains pending.

Claims 3-6 are added.

Amendments to the Specification

The specification has been amended. More specifically, page 1, lines 13 and 15 have been amended to correct typographical errors therein. Page 7, line 3, has been amended to state that the distance L is preferably equal to or greater than the combined width of three adjacent corrugations or three pitch lengths for adjacent corrugations. This arrangement is clearly shown in Figures 1-4. No new matter is added by this amendment.

Objection to the Drawings

The Examiner has required that Figures 5 and 6a be labeled as "prior art". By the present amendment, revised Figures 5 and 6 are submitted with the required "prior art" labels. The drawings are now believed to adhere to the Patent Office requirements.

Rejections under 35 U.S.C. §102(b)

Claims 1 and 2 have been rejected under 35 U.S.C. §102(b) as being anticipated by Vaill, U.S. Patent No. 2,309,719. Vaill '719 relates to a flexible metal hose. A lock ring (18) corresponding to a socket fitting extends longitudinally onto a hose (12) beyond an end of sleeve (8) in a direction away from an end of the hose body. However, the lock ring (18) extends beyond an end of the inserted pipe (8) a distance equal to only about one-half the width of an annular corrugation (11) of the flexible metal hose (12).

Independent Claims 1 and 4

In contrast, the invention defined in claims 1 and 4 include a socket fitting that extends longitudinally of the hose beyond an inserting end of an insert pipe in a direction away from an end of the hose body for a distance equal to or longer than three

corrugation widths of the corrugated metal tube (claim 1), or a distance equal to or longer than three pitch lengths of the corrugations of the corrugated metal tube (claim 4).

According to the claimed arrangement, the portion of the corrugated metal tube that is located in the extending portion of the socket fitting (the portion of the socket fitting extending beyond the inserting end) is provided with necessary structural support to absorb displacement or deformation. Therefore, if the hose body is, for example, deviated largely, displacement motion is hardly transmitted to the portion of the corrugated metal tube located near the inserting end of the insert pipe. As the present application states at page 4, lines 5-12:

According to the present invention, even if a hose is repeatedly vibrated, bending-deformed or flexurally deformed, or a hose is repeatedly internally subject to pressure by fluid travelling therein, a stress is effectively prevented from concentrating repeatedly between an inserting end of the insert pipe and the corrugated metal tube, under restraining or arresting force imposed from outside by the socket fitting which extends long or relatively long. The corrugated metal tube is thereby effectively prevented from being damaged or broken, for example, at a portion connected to the insert pipe.

The claimed arrangement thus effectively prevents stress from concentrating on the portion of the corrugated metal tube located near the inserting end of the insert pipe and prevents damage or breakage to the corrugated metal tube.

In contrast, Vaill '719 neither teaches nor suggests that the socket fitting is configured to extend beyond the inserting end of the insert pipe in a direction away from the end of the hose body for a distance equal to or longer than three corrugation widths of the corrugated metal tube, or equal to or longer than three times the pitch length of the corrugations thereof. Vaill '719 depicts an arrangement wherein the lock ring (18) extends beyond an end of the inserted pipe (8) a distance equal to about one-half the width of an annular corrugation (11) of the flexible metal hose (12). This arrangement does not properly restrain displacement or deflection of a portion of the metal hose (12)

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located near the end of the insert pipe (8), and therefore does not provide the structural and functional advantages of the presently claimed invention.

Vaill '719 also does not teach or suggest the many advantages of providing a socket fitting that extends longitudinally of the hose beyond an inserting end of an insert pipe.

Claims 2, 3, 5 and 6

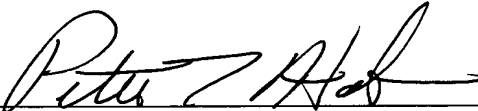
Claims 2 and 3 depend from claim 1 and claims 5 and 6 depend from claim 4. These claims are thus believed allowable for the reasons stated above, as well as the detailed subject matter recited therein.

Conclusion

The present Application is thus believed in condition for allowance with claims 1-6. Such action is respectfully requested.

Respectfully submitted,

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Amendments to the Drawings:

Attachment: Replacement Sheets